

CLAIMS:

What is claimed is:

1. A method of managing a set of data by a distributed set of services, comprising the steps of:

5 organizing the set of data into a plurality of related sets of data;

assigning, by a set of services, management of a related set of data to a service within the distributed set of services based on an optimization criteria; and

10 responsive to failure of a service within the distributed set of services, transferring management of the related set of data managed by the failed service to another service within the distributed set of services.

2. The method as recited in claim 1, wherein the

15 optimization criteria is based on location of the service within the distributed set of services.

3. The method as recited in claim 1, further comprising:

detecting the failed service by a set of remaining services within the distributed set of services; and

20 examining, by the set of remaining services within the distributed set of services, the related set of data managed by the failed service.

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4. The method as recited in claim 3, further comprising:
determining whether data within the related set of
data are at the same location as a service within the set
of remaining services; and

5 responsive to data within the related set of data at the same location as a service within the set of remaining services, attaching the data to the service.

5. The method as recited in claim 1, further comprising:
responsive to an additional service joining the
10 distributed set of services, querying management of the
data within the related sets of data; and
assigning management of a related set of data to the
additional service within the distributed set of services
based on the optimization criteria.

15 6. A method of managing a set of data by a distributed set of services, comprising the steps of:
 organizing the set of data into a plurality of related sets of data;
 assigning, by a set of services, management of a related set of data to a service within the distributed set of services based on an optimization criteria;
 responsive to an additional service joining the distributed set of services, querying management of the data within the related sets of data; and
20 25 assigning management of a related set of data to the additional service within the distributed set of services based on the optimization criteria.

7. The method as recited in claim 6, wherein the optimization criteria is based on location of the service within the distributed set of services.

8. The method as recited in claim 6, further comprising:

5 detecting a failed service in the distributed set of services by a set of remaining services within the distributed set of services; and

10 examining, by the set of remaining services within the distributed set of services, the related set of data managed by the failed service.

9. The method as recited in claim 8, further comprising:

determining whether data within the related set of data are at the same location as a service within the set of remaining services; and

15 responsive to data within the related set of data at the same location as a service within the set of remaining services, attaching the data to the service.

10. A data processing system, comprising:

a system bus;

20 a memory, including a set of instructions,

functionally connected to the system bus; and

a processing unit functionally connected to the system bus, wherein the processing unit executes the set of instructions from the memory to organize a set of data

25 into a plurality of related sets of data, wherein the data in each related set of data has at least one attribute between members, the processing unit assigns, by a set of services, management of a related set of data to a service within the distributed set of services based on an

optimization criteria, and, responsive to a failed service within the distributed set of services, the processing unit transfers management of the related set of data managed by the failed service to another service within the distributed set of services.

5 the distributed set of services.

11. A data processing system, comprising:

a system bus;

a memory, including a set of instructions, functionally connected to the system bus; and

10 a processing unit functionally connected to the

system bus, wherein the processing unit executes the set of instructions from the memory to organize a set of data into a plurality of related sets of data, wherein the data in each related set of data has at least one attribute

15 between members, the processing unit assigns, by a set of services, management of a related set of data to a service

within the distributed set of services based on an optimization criteria, responsive to an additional service joining the distributed set of services, the processing

20 unit queries management of the data within the related

sets of data, and the processing unit assigns management of a related set of data to the additional service within the distributed set of services based on the optimization criteria.

25 12. A data processing system for managing a set of data by a distributed set of services, comprising:

organizing means for organizing the set of data into a plurality of related sets of data, wherein the data in each related set of data has at least one attribute

30 between members;

assigning means for assigning, by a set of services, management of a related set of data to a service within the distributed set of services based on an optimization criteria; and

5 transferring means, responsive to a failed service
within the distributed set of services, for transferring
management of the related set of data managed by the
failed service to another service within the distributed
set of services.

10 13. The data processing system as recited in claim 12,
wherein the optimization criteria is based on location of
the service within the distributed set of services.

14. The data processing system as recited in claim 12, further comprising:

15 detecting means for detecting the failed service by a
set of remaining services within the distributed set of
services; and

examining means for examining, by the set of remaining services within the distributed set of services,

20 the related set of data managed by the failed service.

15. The data processing system as recited in claim 14, further comprising:

determining means for determining whether data within the related set of data are at the same location as a

25 service within the set of remaining services; and

attaching means, responsive to data within the related set of data at the same location as a service within the set of remaining services, for attaching the data to the services.

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16. The data processing system as recited in claim 12, further comprising:

querying means, responsive to an additional service joining the distributed set of services, for querying management of the data within the related sets of data; and

assigning means for assigning management of a related set of data to the additional service within the distributed set of services based on the optimization

10 criteria.

17. A data processing system for managing a set of data by a distributed set of services, comprising:

organizing means for organizing the set of data into a plurality of related sets of data;

15 assigning means for assigning, by a set of services, management of a related set of data to a service within the distributed set of services based on an optimization criteria;

querying means, responsive to an additional service joining the distributed set of services, for querying management of the data within the related sets of data; and

assigning means for assigning management of a related set of data to the additional service within the distributed set of services based on the optimization

25 criteria.

18. The data processing system as recited in claim 17, wherein the optimization criteria is based on location of the service within the distributed set of services.

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19. The data processing system as recited in claim 17,
further comprising:

detecting means for detecting a failed service in the
distributed set of services by a set of remaining services
within the distributed set of services; and

5 examining means for examining, by the set of
remaining services within the distributed set of services,
the related set of data managed by the failed service.

20. The data processing system as recited in claim 19,
10 further comprising:

determining means for determining whether data within
the related set of data are at the same location as a
service within the set of remaining services; and

15 attaching means, responsive to data within the
related set of data at the same location as a service
within the set of remaining service, attaching the data to
the service.

21. A computer program product in a computer readable
medium for managing a set of data by a distributed set of
20 services, comprising:

instructions for organizing the set of data into a
plurality of related sets of data;

25 instructions for assigning, by a set of services,
management of a related set of data to a service within
the distributed set of services based on an optimization
criteria; and

instructions, responsive to a failed service within
the distributed set of services, for transferring
management of the related set of data managed by the

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failed service to another service within the distributed set of services.

22. The computer program product as recited in claim 21, wherein the optimization criteria is based on location of 5 the service within the distributed set of services.

23. The computer program product as recited in claim 21, further comprising:

instructions for detecting the failed service by a set of remaining service within the distributed set of 10 services; and

instructions for examining, by the set of remaining services within the distributed set of services, the related set of data managed by the failed service.

24. The computer program product as recited in claim 23, 15 further comprising:

instructions for determining whether data within the related set of data are at the same location as a service within the set of remaining services; and

instructions, responsive to data within the related 20 set of data at the same location as a service within the set of remaining services, for attaching the data to the service.

25. The computer program product as recited in claim 21, further comprising:

instructions, responsive to an additional service 25 joining the distributed set of service, for querying management of the data within the related sets of data; and

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instructions for assigning management of a related set of data to the additional service within the distributed set of services based on the optimization criteria.

5 26. A computer program product in a computer readable medium for managing a set of data by a distributed set of services, comprising the steps of:

instructions for organizing the set of data into a plurality of related sets of data;

10 instructions for assigning, by a set of services, management of a related set of data to a service within the distributed set of services based on an optimization criteria;

15 instructions, responsive to an additional service joining the distributed set of services, for querying management of the data within the related sets of data; and

20 instructions for assigning management of a related set of data to the additional service within the distributed set of services based on the optimization criteria.

27. The computer program product as recited in claim 26, wherein the optimization criteria is based on location of the service within the distributed set of services.

25 28. The computer program product as recited in claim 26, further comprising:

instructions for detecting a failed service in the distributed set of services by a set of remaining services within the distributed set of services; and

instructions for examining, by the set of remaining services within the distributed set of services, the related set of data managed by the failed service.

29. The computer program product as recited in claim 28,
5 further comprising:

instructions for determining whether data within the related set of data are at the same location as a service within the set of remaining services; and

instructions, responsive to data within the related set of data at the same location as a service within the set of remaining services, for attaching the data to the service.